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REVERE CHEMICAL SITE

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NOCKAMIXON TOWNSHIP, PENNSYLVANIA

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TOWN MEETING held at the Palisade Middle

9

School, Kintersville, Pennsylvania on Wednesday, May

10

15, 1996, commencing at approximately 7:00 p.m.,

11

before GENA M. NARDONE, a Certified Shorthand

12

Reporter.

13

14

APPEARANCES:

15

Anthony T. Dappolone

16

Ruth Scharr

Carrie Clain Deitzel

17

U.S. ENVIRONMENTAL PROTECTION AGENCY

18

Matthew Miller

19

David M. Kargbo

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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21

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AR500001

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2
3
4 MS. DEITZEL: Good evening. Thank you
5 for coming out this evening. I would
6 especially like to thank the Palisade School
7 District for allowing us to use this facility
8 tonight.

9 My name is Carrie Deitzel. I'm a
10 community involvement coordinator for the U.S.
11 Environmental Protection Agency office in
12 Philadelphia.

13 As you know, we've been involved in
14 the Revere Chemical Site for quite a while and
15 in 1993 we did sign a Record of Decision for
16 cleaning up the site, but at that time the
17 Record of Decision waived addressing the
18 groundwater until we could gather additional
19 information.

20 We've gathered that information and
21 we're back this evening to tell you what we
22 found and what we believe is the correct thing
23 to do at this time. We are in the middle of a
24 public comment period. We do have a

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AR500002

1 transcriptionist with us this evening who is
2 making an official record of the meeting. So
3 any comments or concerns that you raise
4 tonight will become an official part of this
5 record.

6 Also, if after this evening there are
7 other issues you wish to raise, you may mail
8 them to us up until May 28th at the address
9 that you'll find on the plan.

10 For anyone who just came in, if you'd
11 like copies of the plan. . .

12 At the close of the comment period we
13 will look at all of the comments that we
14 receive and consider them before we make a
15 final decision. In the event that we receive
16 any information that for some reason makes us
17 want to change what we're recommending
18 tonight, we will come back to you and let you
19 know about that.

20 If we go ahead with the proposal that
21 we're making to you this evening without
22 changing it in any way, we will advertise that
23 we have signed a Record of Decision and to
24 anyone who happens to be on our mailing list,

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AR500003

1 we'll mail a copy of the notice of that
2 record.

3 We have with us this evening from the
4 EPA our remedial project manager, Ruth Scharr,
5 who is going to give a brief presentation and
6 following her presentation we will take
7 questions and comments from you.

8 We also have Tony Dappolone, who is
9 our sections chief for the Eastern
10 Pennsylvania section of the hazardous waste
11 program, and our hydrogeologist, Dave Kargbo.
12 We have two gentlemen from Pennsylvania DEP,
13 Matthew Miller and Rob Zen, who are here in
14 case you have any questions that you'd like to
15 address to the State.

16 At this time I guess I'd like to turn
17 the meeting over to Ruth and let her tell you
18 what we found out in our additional
19 investigation of the groundwater.

20 MS. SCHARR: Thank you, Carrie.

21 Good evening everyone.

22 Before I get into the actual
23 presentation, I just want to sort of tell you
24 what I'm planning on telling you so you know

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1 what to expect. I want to briefly go over the
2 site background and the history of the project
3 because it has been a long project, the scope
4 of work that was developed for finding facts
5 for OU2, which is the groundwater and sediment
6 operable unit, what those findings were and
7 discuss some of the issues related to the
8 proposed plan.

9 And then what I have are some
10 questions that I developed that I anticipate
11 you're going to want to ask. I want to run
12 through those questions with my answers. Then
13 when I'm finished, I'll open up for your
14 questions and comments. Hopefully a lot of
15 the questions will be answered or you'll at
16 least know what you want us to clarify before
17 you go tonight.

18 So really briefly on the background,
19 I'm sure most of you here -- I recognize some
20 of the faces -- have been at the previous
21 meetings. You know that the site operated
22 from 1964 to 1969 as a metal reclamation
23 facility. Then for the most part operations
24 were very haphazard which resulted in the

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1 soils being contaminated, the groundwater and
2 impacts to the on-site tributaries.

3 The work out there began back in 1989
4 when EPA signed what's called a consent order
5 with a group of responsible parties that we
6 identified and that group of responsible
7 parties doing the work is called the Revere
8 Steering Committee. In 1988 they entered into
9 the agreement and -- I said '89 I'm
10 corrected -- and phase one of the RI/FS began
11 and phase one groundwork and soil sampling and
12 sediment sampling, but at that time there was
13 a lot of unknown about the site and very
14 little information existed. So as a result of
15 that investigation we went into what we called
16 phase two, where we did more local sampling to
17 gather more detailed information so we could
18 evaluate the risk posed by the site, as well
19 as develop remedies for addressing the overall
20 site.

21 What happened was phase two then went
22 into our supplemental RI field. Then we
23 finally got to the operable unit one.
24 Operable unit one -- originally we planned to

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1 address the total site as one operable unit.
2 If you remember in '93, I did come out here.
3 We discussed alternatives to address the soil
4 as well as the groundwater. And after the
5 comment period we decided to defer the
6 groundwater as well as the stream corridor, as
7 well as what we would do with the stream
8 corridor.

9 Back in 1993 EPA in consultation with
10 the State and other Federal agencies was not
11 proposing to take any action in the stream
12 corridor, but the question was raised did we
13 actually do enough sampling downstream of the
14 site. So with that comment we deferred that
15 as well and went out and collected another
16 round of samples which included a further
17 distance from the site.

18 The operable unit one ROD then went
19 out, which only addressed what I called soils
20 and contaminated debris. And the soil work
21 that was to be done included vacuum extraction
22 of the soils to address the organic
23 contamination. It included installing the
24 slurry wall and another portion to address

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AR500007

1 organic contamination that we could not
2 extract via the vacuum extraction process.
3 And then it included capping of what was
4 called the process area.

5 Let me put this site map back up.

6 So the operable unit one remedy, it
7 included the vacuum extraction, slurry wall
8 and the area within here would have been -- is
9 going to get a cap to address the metals
10 contamination.

11 Most of the metals contamination
12 threat to the public health and the
13 environment is due to the exposure to the
14 metals. The metals haven't really impacted
15 the groundwater. But if you were to live on
16 the site for an extended period of time, you
17 would get sick due to the concentration of
18 metals. Primarily there are ten metals that
19 are of concern on this site, but the primary
20 contaminants for metal are copper and
21 chromium. And the area of the cap -- the area
22 that would require the cap is based on three
23 criteria. One is the chromium. Chromium
24 represents a cancer risk when you're exposed

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1 to it. Copper is a non-cancer risk. Lastly,
2 we have what we call synthetic leach. We
3 collect the sample, run the water through it
4 and analyze that leachate. If that leachate
5 exceeds maximum contaminant levels, then that
6 would also be an area that would be capped.
7 Maximum contaminant levels are those that are
8 set by the Federal Government for drinking
9 water supplies, and the MCL, maximum
10 contaminant level, the amount of contaminant
11 that you could drink without ill adverse
12 affects. They were the three criteria for the
13 cap.

14 OU1 was addressing what we knew to be
15 the source of the contamination. It was in
16 the soils. The stream was getting impacted by
17 the soils due to erosion. The site in the
18 process area is really devoid of vegetation.
19 For the most part it's rocky and there really
20 isn't any organic matter there. There isn't
21 plant life growing and largely that's due to
22 probably the metals contamination in there.
23 There aren't any new weeds. We all know what
24 it's like to fight weeds in our gardens. We

1 don't even have weed growth on that site. The
2 biggest problem out in that area for the site,
3 I mean it is a 113-acre parcel, but our
4 primary area is what's called the process
5 area. That's where most of the work that was
6 conducted there -- that's where most of the
7 work is conducted. However, our information
8 does indicate that the operation also included
9 pumping liquids from the process area of the
10 lagoons, down the ravines and across the
11 tributaries and spraying it up in the spray
12 fields. That's how we came up with the saying
13 "spray field". There is just one portion,
14 there's one area that's not depicted on this
15 site figure, the east spray field. The copper
16 concentrations there exceed the criteria set
17 forth in the ROD. However, I don't believe
18 that will be capped. I think that will be
19 excavated and those soils will most likely be
20 brought up to the process area and capped
21 there and clean fill will be put in. Although
22 that hasn't been designed, I'm just sort of
23 giving you some "what ifs", things being
24 thought about how to deal with the area.

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AR500010

1 Anyway, moving along, I don't want to
2 spend at lot of time on operable unit one, but
3 I think it's really important for you to
4 understand the components of operable unit one
5 so that you have a complete picture of why
6 we're saying no further action for operable
7 unit two.

8 The other components that I didn't
9 address are the monetary components that
10 includes long-term groundwater monitoring out
11 at this site. We will be monitoring the
12 shallow groundwater unit and the deep system
13 and what this proposed plan -- this is where
14 it gets a little confusing. This proposed
15 plan says "and stream corridor monitoring"
16 because the operable unit one ROD didn't
17 require monitoring of the stream corridor. At
18 the time when the operable unit one ROD went
19 out, we were still evaluating whether or not
20 we had a problem in the streams that required
21 an active measure out there. So I didn't
22 include any monitoring at that point because
23 it just didn't make sense if I was gonna have
24 to come up with a strategy for addressing the

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AR500011

1 stream other than what we have actually
2 proposed in this proposed plan that we're
3 issuing.

4 Then the other important component of
5 the operable unit one ROD is institutional
6 controls and what that means is the property
7 will be deed restricted. It hasn't been yet
8 because we have to determine what portions of
9 the property are impacted by the remedy that
10 will be completed out there. Because it is a
11 113-acre parcel, this area of the process area
12 is roughly 25 acres to 30 acres, I don't think
13 it's actually been surveyed, that's why I say
14 25 to 30. Then we have the areas out in the
15 spray fields that will need to be addressed
16 for the metals contamination. So once the
17 major part of the remedy, which is the cap, is
18 designed and installed, then we'll have a
19 better deed restriction because we don't want
20 to cap -- we don't want anybody building on
21 it. Likewise, the groundwater in those areas
22 will be deed restricted as well. This site
23 has a shallow groundwater unit which I'll get
24 into later. And then the deeper portion, we

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AR500012

1 don't want people trying to use the
2 groundwater and change the dynamics the way we
3 see it and understand it. So not only will
4 there be land use restrictions on areas of the
5 site, but there will also be groundwater use
6 restrictions to ensure that the groundwater
7 systems, as we know it, sort of function the
8 way they have while we have been studying the
9 project and the site. It's been a long time
10 now. I think we have sufficient information
11 to demonstrate that, you know, to demonstrate
12 the preferred alternative to being an
13 acceptable approach for addressing the
14 contamination at the site.

15 So with that, when we went into
16 deferring the remedy for groundwater, the
17 reason we did that was because we wanted to
18 evaluate whether or not actively pumping the
19 aquifer would be beneficial, i.e., meaning we
20 could do it much more rapidly than if we did a
21 passive remedy. Passive remedy means you're
22 just letting nature take its course. You
23 might have natural attenuation. So we had
24 planned to go out there, install four more

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AR500013

1 bedrock wells into the shallow aquifer.

2 Let me put my map up so you can see
3 that. I know it's a little cluttered. You
4 also have your proposed plan, figure two. The
5 wells are on there, if you can't quite see
6 this. We have a number of wells in the
7 shallow aquifer. We planned on doing more OU2
8 work. We're going to put four more wells in
9 areas where we expect it to get hits for
10 groundwater contamination based on what we
11 know about the soil concentrations in those
12 areas.

13 Then we wanted to gather data that
14 could be put into a model to evaluate the
15 natural attenuation versus actively pumping.
16 When you're going to do that, you want to have
17 confidence in your model. You want to get
18 site-specific information. And what we had
19 hoped to do out there was to gather -- do some
20 pumping tests to get some -- these are things
21 that I'm not quite, you know, it's not my
22 field of expertise, but certain parameters
23 that would go into the model and some things
24 they gather geophysically, water slurring

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AR500014

1 tests and pumping tests, actually pumping the
2 groundwater so that they can see how fast
3 things change out there under a pumping
4 scenario. So what we found out is when we
5 went out there to gather all this information
6 so we could evaluate the different type of
7 remedies for groundwater, we got some really
8 useful information and what that was was that
9 the rock doesn't want to give up the water
10 that's there. And that's why we are here
11 telling you that our preferred alternative is
12 no -- I know I'm jumping ahead, but I'm gonna
13 come back to that. What I just want to let
14 you know is we did put in four more wells.
15 They were wells 13 through 16 on here. And
16 well 14, which is in the center here, this
17 well had TCE, which is our primary organic
18 contaminant, 220 parts per billion. MCL is
19 five. So that was forty times greater than
20 the MCL. And we had some contamination in
21 MW-3. We found 25 parts per billion. MW-15
22 we never got any water. And MW-13 we did not
23 get an MCL. That might have been
24 non-detectable. I have a summary table here.

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1 Let me just take a look at it and tell you.
2 In MW-13 it was qualified as questionable at
3 point eight parts per billion. That's way
4 below the MCL. This dashed line is basically
5 trying to show you where our clues exist where
6 we exceed the MCL. The problem out here,
7 while we have these wells and we're getting
8 the hits because of the type of formation out
9 there, you have rock that is very tight and
10 the pathway or the fractures that the rock
11 would travel throughout there from one point
12 to another, meaning from one well to another,
13 they are not very well connected. So while
14 groundwater is there and it will move quite
15 slowly, it's not gonna move at a rate
16 sufficient enough to be able to pump a well
17 and sustain a yield that you would for an
18 extraction system that you would then send
19 into a treatment system.

20 One of the things that was really key
21 in all of this, just to sort of make it be
22 much easier to understand these,
23 hydrogeologically we put the well in and
24 normally you would put in a well and your

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1 water level rises. It might reach its
2 equilibrium point. I mean I've been at other
3 sites and it was met rather rapidly in the
4 same day you were there. At this site we put
5 the wells in in September and water levels
6 slowly rose over the course of twelve weeks to
7 static water level. That goes to show you if
8 it took that long to fill up the well column,
9 if we were to try to pump, we'd pump the well
10 dry and we'd have to come back three months
11 later to get the next column of water out.
12 Really without -- I know that's not very
13 detailed and I have Dave here if there is
14 somebody who needs a more detailed
15 explanation, but that's really why it's
16 technically impractical from an engineering
17 perspective to do a groundwater and pumping
18 treatment system. It's tight out there.
19 Water there moves very slowly, but not
20 sufficiently to sustain a groundwater
21 extraction system. This is just a
22 cross-section of the geology that gives you an
23 idea of what's going on out there. We do have
24 shallow groundwater contamination. We don't

1 have any hits in the deeper aquifer. I know
2 we mentioned that the additional work included
3 shallow groundwork. That was because the
4 other phases we included many -- there were
5 many other deep wells. If you look on figure
6 two, I don't have an overhead for that, you'll
7 see several other deep wells. OU2 just
8 included the shallow aquifer because we were
9 trying to develop alternatives for addressing
10 the contamination there. There was no
11 contamination in the deeper aquifer. The way
12 we understand the site and conceptualized
13 what's going on, we have the upper -- this
14 chart -- aquifer in the proposed groundwater
15 unit. I'm going to clarify that. Why I did
16 that was very purposeful. When you say
17 "aquifer", that's something that provides
18 water that I can use for domestic purposes.
19 If you look it up in the dictionary, that's
20 the sort of definition you're gonna get. I
21 did refrain from using the term "aquifer" when
22 I spoke about the shallow. It is a
23 groundwater unit. It really doesn't meet the
24 definition of aquifer because it cannot

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AR500018

1 sustain and yield sufficient for somebody to
2 put a well in and use it. What we have --
3 what we're calling a confining layer, these
4 are the black shales. That's approximately 60
5 feet. This shale is continuous and sort of
6 jots on over to what's an on-site tributary.
7 Because of these shales we believe the deeper
8 aquifer hasn't been impacted, even though
9 looking at a site that's now 30 years old, he
10 started operations in 1963 and abandoned
11 property in 1969. So it's just shy of its
12 thirtieth birthday and we're not seeing hits
13 in the deeper aquifer. Mainly it's because,
14 one, the rock out there is very tight and it
15 has low permeability because of the type of
16 the rock, because it has low chromiability.
17 Also, it has what's called low hydraulics.
18 That's just a rate for saying how quickly
19 groundwater moves and because of the level of
20 hydraulics -- I just lost my
21 point there, I'm sorry. Anyway, we have the
22 deeper zone and the upper zone. They are
23 separated by what's called the black shales.
24 That's right. I was talking about the

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AR500019

1 discharge. I got it back, my thought, I'm
2 really sorry. Out at the site -- here let me
3 just point this out -- we have the process
4 area. It's in this area, if you remember the
5 other picture, where we have the groundwater
6 contamination. Then we have two on-site
7 tributaries. These tributaries actually act
8 as a hydraulic here. For those people who are
9 living around this site and want to know is my
10 residential well safe, we are saying that
11 there aren't residential wells impacted. The
12 reason is because we have that shallow zone.

13 Let me put this back up here. We have
14 the shallow zone which is then separated by
15 the shales and see the shales continue all the
16 way over to the on-site tributaries. This is
17 the tributary here, therefore, the confining
18 layer of groundwater moves ever so slowly.
19 What we believe is, eventually it discharges
20 to the on-site tributaries through seeps. We
21 did sample the on-site tributaries and there
22 are no organics in the groundwater on the
23 on-site tributary. And if you recall from
24 this picture, this is the TCE plume where we

1 can see the MCL. We don't have a well down in
2 this area to say well it's at non-detect, but
3 I do have MW-16 which is 25 parts per
4 billion. Yes, that's higher than the MCL.
5 MCL is five, but the tributaries were not
6 seeing any organic contamination at all. So
7 because of the processes that occur in the
8 ground by the time it gets there, we're not
9 having impact to the stream from contaminated
10 groundwater.

11 I'm going to recap those findings. I
12 just want to move now on to the other portion
13 of the OU2 work which included additional
14 sediment sampling. As I said, we didn't have
15 organic contamination to the stream from the
16 groundwater. Remember what's in the
17 groundwater is organic contamination,
18 predominantly TCE and that is
19 trichlorobenzene. When we sampled the creek,
20 we had some metals contamination in the creek
21 and during the course of the RI/FS, meaning
22 phase two, there were studies done of the
23 organisms that live in the creek. There was a
24 lot of sampling done there. What we said was

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1 that, yes, there have been impacts to the
2 organism diversity in the creek and we did
3 have some levels of contamination in the creek
4 and what was of concern was the mercury
5 because mercury is something that stays around
6 the environment for a long time. It will
7 bioaccumulate but EPA said that we believe
8 that the impacts to the stream would be
9 stopped once the cap was put in place and the
10 OUI remedy was implemented. What we had
11 proposed to do was the monitoring of the
12 stream. Now, remember that was all deferred
13 because we came here and people were concerned
14 that we didn't do sampling far enough away
15 from the site to confirm -- to draw that
16 conclusion. So it included additional
17 sampling at 14 locations. So it included
18 background samples as well as sampling in the
19 tributaries. What was most important was
20 further sampling further downstream. Here the
21 additional sampling around in the stream part
22 for mercury we believe confirmed what we said
23 before, was that where we have the greatest
24 impact, where we have hits, let me just say on

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1 this figure, where there is a U next to it,
2 that means that was the detection limit. That
3 doesn't mean that was detected there. It
4 wasn't detected, but that was the level at
5 which the lab equipment could say contaminant
6 was there if it was there. So what we saw
7 anyway was that in areas where we have the
8 steep hills and erosion and where run-off has
9 historically occurred that we have
10 contamination of mercury at levels that could
11 cause some concern. What I want to explain
12 about the mercury levels, because I have it
13 all written down here because I certainly
14 couldn't remember it all, was the detection
15 limits that I spoke about were only marginally
16 above guidelines that the agency uses to
17 evaluate whether a contaminant is at an
18 unacceptable level. I have it here. The
19 effects range lower with the ERL and the
20 effects range median with the ERM. They
21 delineate three ranges for a chemical. If the
22 concentration is less than ERL, what we expect
23 to see are minimal effects and are rarely
24 observed. If the contaminant concentration is

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1 greater than or equal to the ERL, but less
2 than the ERM, you see possible side effects
3 that occasionally occur. If it exceeds the
4 ERM, then you have probable effects that
5 frequently occur.

6 Now, we've already concluded that
7 impacts from the soil contamination from the
8 stream has probably impacted the stream
9 quality and the diversity of organisms that
10 live there, but what's important here is that
11 the levels that we're seeing, taking into
12 consideration the guidelines that we use
13 because unlike soil -- unlike groundwater
14 where we have regulations, as I said, the
15 maximum contaminant levels that our statutes
16 say groundwater cannot exceed this level. We
17 don't have that for metals or inorganics and
18 stream sediments. So then we defer to the
19 guidance that exist. As I said, the
20 detections were only marginally above the
21 ERL. For the stream mercury sampling event,
22 none of the detected concentrations exceeded
23 the ERM for mercury, which in sediment is
24 point 71 parts per million. If you recall on

1 the map -- if you want to, you can look on
2 your figure two. It's on there at location
3 three. The concentration was point 64. That
4 was still under the ERM, which would be what
5 we consider a bad -- not very good, very
6 probable that you're gonna have impacts. So
7 because we only had contamination hits in
8 three of the fourteen locations and none of
9 them exceeded the guidance which would
10 indicate we'd have probable effects that
11 frequently occurred, we concluded that the
12 stream, while it has probably been impacted
13 from the site, that once we deal with the
14 source of those impacts that the stream would
15 clean itself up naturally.

16 The other important thing to note,
17 while we said that actually taking measures
18 out in the stream are not really practical
19 because of the conditions that exist out
20 there, the stream is composed -- the stream
21 bed is not -- probably most of you haven't
22 been on-site. It's basically bedrock
23 outcroppings. It's not -- you can't put your
24 foot down and feel the mush. It's not that

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AR500025

1 type of stream. It's intermittent streams.
2 There's not always water. There's very little
3 sediment there. It was tough even finding
4 sediment. We had to pick up rocks and scrape
5 it off to get some sediment. So because of
6 the natural features out there, we have steep
7 ravines, forested area, bedrock outcroppings,
8 that in conjunction with the mercury levels
9 that we're seeing, we're saying let nature
10 take its course and let's focus on dealing
11 with the source control measures, which is
12 capping the site. And then make sure that
13 what we're concluding is correct by doing
14 surface water and sediment sampling. If we
15 are not seeing a decline and improvement of
16 the stream, then at that point we would know
17 that we need to look at other options out
18 there, that maybe we're not ready, but DEP in
19 conjunction with Pennsylvania DEP believe
20 that's an appropriate course of action for
21 addressing any impacts to the stream that are
22 site related.

23 No further action, that means no
24 further action other than what is already

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1 occurring for operable unit one. We are not
2 taking any active measures in groundwater and
3 because the operable unit one remedy didn't
4 include surface water and stream sediment
5 sampling, even though this is called no
6 further action, we're including a monitoring
7 component in there. And I have five-year
8 reviews. Meaning we're going to be doing the
9 long-term groundwater monitoring as well as
10 stream corridor monitoring. And we'll collect
11 that data and do what we call five-year
12 reviews. Five-year reviews are pretty much a
13 part of every superfund site, if there is any
14 contamination left on-site. At this site
15 there will be contamination left on-site.
16 First of all, we're not actively remediating
17 groundwater. We're telling you from an
18 engineering perspective we can't get the water
19 out of the rock. Then soil, although we're
20 planning vacuum extraction to address the
21 organics of the soils, planning on putting in
22 a slurry wall and capping, still that is
23 on-site. It's remaining on-site. So under
24 the superfund law we're required to come back

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AR500027

1 and do five-year reviews. And the purpose of
2 that is to make sure that the remedy is
3 protected, that it has remained protected over
4 time and also if something changes, sometimes
5 we develop new information and find out that a
6 number we developed or a statute or a
7 regulation or an MCL, that the numbers aren't
8 quite protected and we need to change it.
9 That's part of the purpose of five-year
10 reviews. So this component we're addressing
11 for the site is no further action, but I have
12 45 thousand dollars factored in here. That's
13 to cover the sampling events for seven years
14 of sampling in the stream corridor and in the
15 surface water.

16 The reason why it is not called
17 long-term is because a reasonable man would
18 say if that was true, if what you told me back
19 in 1996 was accurate and that once you
20 controlled the source and put the cap in that
21 I should see decline in concentrations in
22 mercury in the stream, if that's true, then
23 after seven years, I should know it. If I
24 don't know it after seven years, maybe I

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1 better go back and look at taking some active
2 measures in the stream. That's why it's only
3 for seven years. That gives us enough time to
4 put our remedy in place and show that we drew
5 correct conclusions based on the information
6 we gathered.

7 Just for a quick recap on the RI/FS
8 findings here, I think this is pretty
9 important to emphasize, that there's currently
10 no evidence of site-related contaminations in
11 any of the residential wells. Although we
12 didn't include samples of any residential
13 wells recently, the work that was conducted in
14 phase two we determined that the residential
15 wells in the vicinity of the site were
16 basically upgradient of our contamination
17 zone. This is sort of a map showing you. If
18 you remember, we have two on-site
19 tributaries. They act as hydraulics. You
20 basically have groundwater discharging on
21 either side of the tributaries to the
22 tributaries. All these homes are considered
23 to be upgradient. The long-term groundwater
24 monitoring plan that's envisioned, remember

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1 this is a 113-acre parcel property, my
2 groundwork contamination exists in the shallow
3 zone in a very small area of that process
4 area. So that I can have a monitoring network
5 developed that will pick up contamination
6 before it even gets to the residential wells.
7 This is assuming we're wrong and that they
8 aren't upgradient. What I'm telling you is
9 that they are upgradient. They are not going
10 to be impacted because groundwater isn't
11 flowing in that direction. The reason why I'm
12 drying them up is what if we're wrong, you
13 would want to make sure you have a well
14 network to show that. And the residential
15 wells out there draw from the deeper zone. If
16 you remember, I said the shallow zone doesn't
17 yield enough. Most of the residencials are
18 very deep. We will have groundwater
19 monitoring in the deep zone as well as in the
20 shallow zone. What that will tell us is how
21 the contamination in the shallow zone is
22 changing over time and where it's going and is
23 it going, how we expected it to go and also
24 make sure that it's not impacting the deeper

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1 zone, which is the zone which residents draw
2 their water from.

3 Hydrogeological conditions dictate
4 that the groundwater in the shallow zone flows
5 at least half way, is not very well connected,
6 combined with the low permeability of the rock
7 results in low hydraulics conductive of the
8 shallow zone, and that means no yielding
9 wells, which eventually means, from an
10 engineering perspective, remediate the
11 groundwater in the shallow zone. The other
12 thing is the black underlying shale acts as a
13 confining layer separating the shallow zone
14 from the deeper zone. And that is why we're
15 saying the deeper zone hasn't been impacted.
16 The other important thing to remember is that
17 the OU1 remedy, the installation of the cap,
18 the remediation of the soils and the
19 containment of the soils cannot be remediated
20 through vacuum extraction, will eliminate any
21 continual source to the groundwater. As far
22 as tributaries go and impacts to the
23 tributaries, they lie in ravines on the site,
24 in the natural stream bed, composed of bedrock

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1 outcroppings and sediment is rare, and that
2 these natural features make attempts to remove
3 sediment impractical. Site source control
4 measures should result in further reduction of
5 the tributary sediment. Again, we're
6 including monitoring to ensure that these
7 conclusions that we're drawing are correct.
8 This is sort of just the same things sort of
9 restated, but I just want to emphasize that
10 groundwater contaminated in the shallow zone,
11 normally when we have groundwater
12 contamination that exceeds the maximum, that's
13 considered a trigger to have to do remediation
14 out at the site. I'm here telling you we
15 can't do active remediation because it's
16 impractical. The superfund law allows for
17 circumstances like this and one of the waivers
18 is called a technical waiver in an engineering
19 perspective. We're basically saying the
20 groundwater out there in the shallow zone does
21 not have to be cleaned up to the maximum
22 contaminant level because from an engineering
23 perspective we cannot do it. However, I do
24 expect the contamination level to decline over

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1 time through natural attenuation. Once we
2 remediate the source areas for the organics
3 and we cap the site, we're not going to have
4 precipitation and infiltration and continuing
5 source to the shallow zone. And now this
6 state of equilibrium that has gotten to it
7 over the last thirty years will change and
8 groundwater is moving very slowly, but there
9 will be no contribution to the source which is
10 the soils. So eventually I would expect the
11 contamination in the shallow zone to decline.
12 However, because it's so slow moving and
13 because of our inability to even gather the
14 parameters you would want to have that are
15 site specific for even modeling such a
16 scenario, I can't tell you with any surety
17 that it's going to be 10 years, 20 years or 30
18 years. That's one of the values of long-term
19 monitoring. As more time goes on we'll get
20 more data. We'll be getting a better feel for
21 it. Remember, there is no one impacted
22 currently from the site. Groundwater
23 discharges from the on-site tributaries. We
24 haven't detected any source of contamination

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AR500033

1 in the soils. The operable unit one addresses
2 that we're including long-term -- this chart
3 doesn't say it but it also includes surface
4 water and sediment monitoring and the
5 five-year review.

6 Also, I just added on here that the
7 FS -- basically when you go to feasibility,
8 you develop alternatives, one being no action,
9 another one is institutional controls and then
10 you'll look at your active-type remedies.
11 During the FS process we screened out any
12 active measures because of the fact, as I said
13 before, the rock is too tight. We just really
14 can't get the water out there in sufficient
15 quantity to design pumping -- groundwater
16 pumping treatment system.

17 So with that, I would like to open --
18 I did tell you I was gonna do questions and
19 answers of ones that I already prepared. Let
20 me find my cheat sheet.

21 This is sort of like a review anyway
22 of what I said because we did think about them
23 and sort of answer them. I just want to go
24 back to 1993 when I was out here before. We

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1 said well, we're going to groundwater
2 extraction and treatment for the site and why
3 DEP is saying no further action is appropriate
4 now. The reason is during the course of the
5 operable unit two work we gathered some
6 additional information, hydrogeologic
7 conditions that led us -- that told us that
8 the groundwater yield there is insufficient to
9 really pump groundwater actively out there.
10 We also put in more wells, enough wells that
11 we feel comfort in saying that there is enough
12 barrier, the black shales that I spoke about,
13 that acts as an aquitard and isn't impacting
14 the deeper portion, which is the deep aquifer
15 and shallow groundwater unit.

16 The other important thing is that over
17 this long process we know that the
18 contamination in the wells that were put in
19 phase one like MW-4, MW-12, they were put in a
20 few years back. So we have about seven or
21 eight rounds of sampling from those wells that
22 span from 1989 to 1995. And we have seen
23 relatively constant concentrations of TCE in
24 that well. So that tells us that it's not

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1 really going anywhere. Things aren't changing
2 and typically we see changes at superfund
3 sites over a span of six years. TCE can break
4 down into its other -- it will break down and
5 biodegrade. You'll get breakdown products. I
6 don't know them all off the top of my head.
7 Dichloroethylene just to name one, DCE, and
8 the other very important breakdown product is
9 vinyl chloride. We're not seeing that out
10 there either. What we seem to think is that
11 sort of just bound up in the rock and
12 conditions are such that it's not really
13 moving and it's not really breaking down and
14 sort of staying bound up there. So because
15 it's in the shallow zone and it's in an area
16 that will be capped because it doesn't yield
17 enough water to sustain a domestic use that
18 it's improbable to even say anybody would be
19 exposed to this groundwater. Therefore, we
20 think it's appropriate to say no further
21 action. Not only from an engineering
22 perspective but there really isn't any risk
23 posed by the groundwater out there. One thing
24 I just want to bring up. I have another

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1 chart, just to sort of put everything in
2 perspective. When we do sites, we look at the
3 risk posed by the site. Even though I said no
4 current exposure, nobody's residential well is
5 impacted, but if you were to put a well
6 on-site and use it and assume that the shallow
7 zone would yield a sufficient quantity of
8 water and want to put a house there and have
9 groundwater supplied to their home. If you
10 ingested the groundwater, what you would get
11 would be 1.9 times ten to the negative five
12 cancer risk. I'm going to briefly explain
13 that. We have what's called a cancer risk
14 range. One times ten to the negative four to
15 one times ten to the negative six, if you
16 you're within that range, that's considered an
17 acceptable risk range. And what that means is
18 it's one times ten to the negative four you
19 will have one cancer risk in ten thousand
20 people exposed to that contaminant or if it is
21 one times ten to the negative six, you have
22 one excess cancer risk in one million.

23 If you were to get the groundwater and
24 drink it over the course of a lifetime for

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1 cancer risks, you wouldn't even be outside of
2 what the EPA would consider unacceptable. For
3 the hazard index, HI, that's how we evaluate a
4 non-cancer risk for a child, children are
5 sensitive, more sensitive than adults. When
6 we evaluate exposure to chromium, it came up
7 at 2.31, whether we're looking at non-cancer
8 risks, anything greater than one is considered
9 unacceptable. So if a family were to live
10 there, a child would have what we consider an
11 unacceptable non-cancer risk. I just wanted
12 to point that out in case people were
13 wondering why haven't I talked about that when
14 normally we do. This is all -- that's
15 evaluated, but this is not a probable scenario
16 because you cannot get the water out of the
17 rock, which is why we're saying we can't
18 remediate. Likewise, somebody couldn't
19 actually go and put a house there and draw
20 water from it because they wouldn't get the
21 water either. I just wanted to clear that
22 up.

23 Another question people typically
24 bring up is, how are we going to ensure that

1 residents surrounding the site are protected
2 from any contamination at the site? That's
3 where the monitoring part of our remedy comes
4 in. We require groundwater monitoring and
5 surface water and sediment monitoring. Who is
6 responsible for monitoring in the future? It
7 depends, but this site I already know it's
8 Revere Steering Committee. They have already
9 entered into a contract with the EPA to do
10 that. And it will be EPA who will ensure that
11 they do conduct it. They will be doing the
12 actual work and reporting the results to the
13 EPA and to the Pennsylvania Department of
14 Environmental Protection. It will be your
15 Federal and State agencies ensuring that the
16 monitoring is being conducted consistently
17 with the remedy that we have selected.

18 Another question is, do you think
19 adjacent properties will be restricted in the
20 use of groundwater? Because this parcel is a
21 hundred and thirteen acres, I would venture to
22 say no, but when we actually get out there and
23 have, you know, possibly additional
24 groundwater monitoring wells put in there,

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1 there might be new information that we develop
2 that would say maybe we should think about,
3 what if a pumping well for some distance is
4 going. I don't know what the plan is for
5 right around the site. This is just a what
6 if. Those things could happen in the future,
7 but today from the information that the EPA
8 has the only place groundwater use will be
9 restricted will be on the site, which is what
10 I had said before, groundwater use on the site
11 where the remedy is being put into place.

12 How long will it take for groundwater
13 at the site to clean up? We're not really
14 sure. We believe that it has remained pretty
15 constant -- I don't want to jump back and say
16 the last thirty years. I know since 1989
17 concentrations have remained relatively
18 stable. They haven't changed. We do expect
19 there to be some decline once we remediate the
20 sources in the soils. And when we cap it, we
21 will no longer have infiltration percolating
22 through the soil. Then getting down to the
23 saturated. How long will it take? I don't
24 know that answer and I don't think anybody can

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1 say that until we get into a few more years of
2 monitoring, following the actual remediation
3 of the soils.

4 Then the stream corridor, what
5 measures will be taken to protect the stream
6 water and sediments in the adjacent places
7 from future contamination? What those
8 measures are will be operable unit one source
9 control measures, cleaning up the soils,
10 putting in the slurry, capping the site where
11 the concentration of metals exceeds
12 performance standards set forth in the ROD.
13 Also, just making sure that the contamination
14 that's there is not migrating to the stream
15 and how will we make sure that that's not
16 happening? We're going into the monitoring of
17 the stream. If we're correct that the source
18 control measures will be protected that we
19 should eventually see rebound, more diversity
20 of organisms in the creek and when we see
21 that, we'll know we were right. If we don't
22 see that, then we'll need to question and
23 reevaluate what should be conducted in the
24 stream.

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1 Again, why don't we believe what
2 contamination is in the sediments is there is
3 because there's very little sediment out
4 there. It was very difficult to even get a
5 sediment sample because it's a bedrock
6 stream. I would think a lot of stream --
7 actually soils that were carried out through
8 raining and whatnot and as some of you know we
9 implemented sedimentation and erosion control
10 measures in 1992. And so we have minimized
11 erosion into the stream, but when the cap is
12 in place and the areas outside of the cap are
13 revegetated and stabilized, we won't have that
14 erosion process occurring and, therefore, the
15 stream should be of the quality one would
16 expect it to be. I'm tripping up on -- once
17 those measures are implemented, we should see
18 more stream life and improved water quality
19 and sediments. We don't expect to see
20 contamination in the sediments. So right now
21 I would just like to turn the meeting over to
22 the questions and answers and comments, if you
23 like, and Dave Kargbo, my hydrogeologist, can
24 answer questions on hydrogeology. If you want

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1 more detailed answers and as Carrie said, my
2 supervisor is here with us. You may have
3 other questions pertaining to administration
4 of the program or whatever that you might like
5 answered. I'll be happy to answer that.

6 To mention one other thing that I
7 didn't mention that is in the proposed plan,
8 it's in the beginning of the plan, the next
9 step for the OUI remedy. I'm planning on
10 coming out with what's called an explanation
11 of significant differences and the purpose of
12 that is to clarify what we call the
13 performance standard for site restoration. We
14 try with all our best to develop performance
15 standards that are clear and concise. And as
16 usual you write it, think it's good and
17 somebody said, you know, I'm not quite sure if
18 that's what you really mean. So the ESD that
19 will be coming out to clarify when we're
20 speaking about site restoration and
21 revegetation and stabilization, that we're not
22 just referring to the area of the site where
23 the cap will be. When we put the cap in here,
24 we're going to have to revegetate this area,

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1 but outside of the process area because of the
2 activities that occurred there, there are
3 steep slopes out there and there is the ravine
4 of tributaries, but still there are areas that
5 have eroded, most likely eroded due to the
6 activities that occurred out there. So I
7 would be clarifying in this explanation of
8 significant differences that when I said site
9 restoration, it didn't just mean in the area
10 where we're putting the cap. It meant the
11 site because the activities at the site were
12 not inclusive only to the process area. It
13 included the south spray field and east spray
14 field. We needed to make sure that areas that
15 have eroded will no longer erode and will be
16 revegetated. Over time you'll have that part
17 of the forest go back to a forest that has
18 much diversity.

19 The other component of the explanation
20 of the significant differences that's briefly
21 discussed there is the synthetic leachate
22 test. That is the third criterion in the
23 Record of Decision for OU1. And that was
24 developed to delineate the extent of the

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1 capped area. And we came up with that
2 criterion and said that anything that
3 would leach -- when I say anything that would
4 leach, they would take a sample, run a
5 leachate through and analyze the leachate. We
6 originally said if it leached above maximum
7 protection limits, that would be the area that
8 would need to be capped.

9 During the course of the design it was
10 brought to our attention that you may end up
11 having areas that need to be capped that are
12 leaching above the protection, but leaching
13 minimal that occur naturally and, therefore,
14 it wasn't really the best criterion.

15 The purpose of that was making sure
16 nothing would impact groundwater at all. If
17 that was an area where that could potentially
18 happen, then we would require it to be capped,
19 but the EPA believes that it is protected to
20 say that if anything reaches above the maximum
21 contaminant levels that would be an area that
22 would be capped because the maximum
23 contaminant level is considered a protected
24 level for a chemical in the groundwater. I

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1 believe it's still protected to say that that
2 third criterion is based on the maximum
3 contaminant levels for contaminant that are
4 related to the site.

5 I think that's the last thing I need
6 to cover. So now we'll go to questions and
7 answers.

8 MR. NEWCUMER: Paul Newcumer,
9 N-e-w-c-u-m-e-r, Supervisor Nockamixon
10 Township. I have two questions.

11 What are the remediations in OU1
12 revegetation to keep the sediments from going
13 off site into the stream? My question is, how
14 do you propose to revegetate that? In other
15 words, vegetation hasn't grown there in like
16 thirty years. What type of vegetation -- or
17 are you putting soils on top and planting? If
18 you do revegetate it, and if it dies out, do
19 you then come back and redo the process
20 again?

21 MS. SCHARR: In the area where the cap
22 is going, that's the area where I said it's
23 basically devoid of vegetation. They are
24 going to have to put a sufficient layer of

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1 soil that would sustain the planting species
2 that are going to be in there. As far as the
3 type of plant species, I don't have an
4 operable unit one ROD with me. I'll basically
5 defer to the Department of Interior and Fish
6 and Wildlife to help us inspect grasses that
7 are indigenous to the area, basically that
8 will be grasses seeded out there. In the
9 areas -- up areas which is a subject of the
10 ESD, we want to put a soil cover there to stop
11 the erosion process. That would also be
12 seeded probably with similar type seeds. In
13 the event that it does not stay stabilized,
14 then I would suspect that they would have to
15 restabilize it because, obviously, the remedy
16 failed. If it all washes out or something
17 goes wrong, then something wasn't done quite
18 right. Then do it again. The second question
19 is for the hydrogeologist.

20 MR. NEWCUMER: Most of us kind of
21 think rain comes down, it percolates through
22 the soil, eventually goes into the water
23 tank. My question is that if your statement
24 that the shallow groundwater is contaminated

1 but the deep groundwater is not and there's
2 very little movement from one to the other,
3 I'm wondering where does the water come from
4 in the deep area that's not coming from up
5 above or is it the fact that it is coming up
6 above, but by the time it gets there the slow
7 process which is the case result.

8 MS. SCHARR: That's definitely a
9 question for him.

10 MR. KARJBO: I personally believe that
11 the aquifer systems itself, you can't just be
12 looking at it from a micro scale that small
13 area. You got to look at it as an area wide
14 aquifer system. You could have an upgradient
15 recharged area where water is moving
16 underground. When we say we have an aquitard
17 or confining unit, it doesn't really
18 necessarily mean that it's zero. You know
19 zero percolation is -- nothing like zero
20 percolation, but we don't have significant
21 amount of water that's going to recharge that
22 lower aquifer. If we did, that could be
23 evident in the levels of contamination that we
24 would be finding in the lower aquifer because

1 the water would tend to dissolve and carry
2 those contaminants emphatically down through
3 any fractures that are present there. We're
4 not saying it's entirely fracture-free, there
5 is no percolation, but it's not significant
6 enough to warrant any concern and we can prove
7 that to a certain degree by looking at the
8 water quality right at the site in that lower
9 aquifer.

10 MR. NEWCUMER: So the water that is in
11 the lower aquifer is deep soils that neighbors
12 have in surrounding wells, that is coming,
13 recharging from off-site would you say?

14 MR. KARGBO: Yeah, off site recharge
15 but you do have -- again, I mean I can't
16 stress enough to say that when we say we have
17 an aquifer over there that's entirely zero,
18 it's not entirely zero, but it's not
19 significant.

20 MR. LANCEHARBOR: Dan Lanceharbor
21 (phonetic), Nockamixon Township. This is not
22 the same site, but do you know if they are
23 done at Borehead Farms? It's the same
24 family. Are they done at Borehead, is that

1 aquifer out there safe?

2 MS. SCHARR: Unfortunately, I don't
3 know anything about it.

4 MR. LANCEHARBOR: You don't have
5 anything to do with it?

6 MS. SCHARR: I know they were doing
7 remedial investigation work out there. There
8 was extensive drum removal, but as far as
9 characterizing the groundwater, groundwater
10 flow and geologic conditions, that I don't
11 know, but I can give you the name of the
12 person -- I can gave you the name of
13 the project manager.

14 MR. LANCEHARBOR: I thought it might
15 be the same aquifer because they are not that
16 far from each other. You know what I'm
17 saying?

18 MS. SCHARR: The two sites, as far as
19 the aquifers are concerned, are not the same.
20 I mean this site, as Dave had said, this is a
21 microscopic mixture of the total water shed.
22 At this site we have contamination in the
23 shallow zone which, fortunately for all of us
24 here, the particular spot of this site is

1 located on top of the shale. So the shallow
2 zone hasn't contributed contamination to the
3 deeper zone. And that these areas on the
4 other side of the tributaries, because
5 groundwater we're saying is flowing and
6 discharging to the tributaries, groundwater on
7 the other side would most likely flow and
8 discharge to the tributaries. So what's north
9 on Route 611, which would be up here, is not
10 impacted by this site. And that's why I don't
11 know anything about it, because I need to know
12 about what's going on in this picture.

13 MR. LANCEHARBOR: Yeah, I live three
14 miles from the quarry and every Saturday at
15 11:30 I can feel my place shake and I'm two
16 and a half miles away. I'm only about two
17 miles away from Borehead Farm. I just thought
18 being as it's all under rock and so on and so
19 forth, what about if the quarry decides to
20 have a super blast, are we going to mix
21 aquifers and then --

22 MR. KARGBO: Let me make an attempt
23 here. Although I have very little knowledge
24 because it's been so many, many years. We

1 have somebody working as a hydrogeologist. I
2 don't know who the new person is, but I think
3 as far as I can remember, Borehead Farm sits
4 on what we call a diabase. It's like an
5 intrusion that weather over time -- it also
6 has what we would call very tight soils to a
7 certain degree. The on-site well, which I
8 think was found to be contaminated, is a very
9 deep well. And I think there were also
10 questions as to whether there was introduction
11 of contamination from the sulfurs into the
12 deeper zone, not necessarily a vertical
13 migration of contaminant into the deeper
14 zone. As far as how those two sides relate,
15 I'll be honest with you, I don't know. That's
16 not my site.

17 MR. LANCEHARBOR: Thank you.

18 MS. MACELLE: Are there any other
19 sites and information about other sites that
20 have had similar conditions and similar
21 remediation for what you're proposing that you
22 could do here that we could take a look at and
23 see how well the actual remediation actually
24 worked in those cases?

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1 MS. SCHARR: I'm not sure I understand
2 your question. What we're proposing is no
3 action for groundwater. We're saying we
4 can't, from an engineering perspective, clean
5 up groundwater because --

6 MS. MACELLE: I'm talking about
7 capping, supposedly stopping the erosion on
8 the ground and -- and doing no further work.
9 Is there any other site that's similar to this
10 where that approach has been taken and been
11 evaluated over a period of years?

12 MS. SCHARR: Off the top of my head, I
13 don't know. The sites I know about are the
14 sites that I'm assigned to.

15 MS. MACELLE: Is there anyplace else
16 we could get this information?

17 MS. SCHARR: I can check what's called
18 the ROD database.

19 MS. MACELLE: What is it called?

20 MS. SCHARR: It's called a ROD
21 database that we have access to, but whether
22 or not we have the match up that you have
23 here, I don't know. Every site is unique.
24 This is a unique site because we have

1 tributaries on either side of the area where
2 we had the contamination. Most of the
3 contamination is within the process area. And
4 that's going to be capped. It's going to be
5 capped with the equivalent of a -- what's
6 called a Cadillac cap -- now I want to tell
7 you it's the Cadillac cap. It's a cap that --
8 do you want to help me out with the ten --

9 MR. KARGBO: Yeah, that's a number
10 that describes the flow rate, the rate at
11 which water is going to move through the cap.
12 What happens is depending on whether it's
13 going to be a synthetic cap or naturally
14 occurring clay cap, we eventually try to
15 ensure that if any water comes in contact with
16 that cap, it's gonna migrate horizontally
17 because the expected hydraulic activity is
18 seven seconds. When she talks about Cadillac
19 cap, we're talking about a cap that has --
20 it's not just a clear top. You also have a
21 monitoring system where if water does migrate
22 through, it will move down the sides to, say,
23 gravel several layers of protection.

24 MS. MACELLE: Is there more

1 information at least about the cap being used
2 in similar situations? Can we access this?

3 MR. KARGBO: Yes. We have guidances
4 on cap design. You probably heard of a record
5 cap which is one of the programs in the
6 hazardous waste. That's a nationwide cap.

7 MS. SCHARR: This is the equivalent of
8 that.

9 MR. KARGBO: Which is supposed to be a
10 well-designed cap with several layers of
11 protection and monitoring all the time also.

12 MS. MACELLE: Okay. Thank you.

13 MR. TEXT: My name is John Text
14 (phonetic). I'm from Upper Black Eddy,
15 Bridgeton Township. Just to answer some of
16 the questions, I do have a question first.
17 Isn't it true that a lot of the funds have
18 been cut back by the Feds for the superfund
19 program?

20 MS. SCHARR: It's true that EPA did
21 not have a budget for most of the fiscal year
22 and just recently had the budget bill signed.
23 So it is true that there was no EPA funding
24 for many sites, specifically sites that were

1 superfund fund, meaning Federal dollars paying
2 for the clean up. So that's true. Although
3 that's changing because we do have a budget
4 and money will be available for proceeding
5 with work on these sites that are called fund
6 league sites, meaning that the government's
7 paying for the clean up. At this particular
8 site it's Revere Steering Committee paying for
9 the clean up. EPA and Pennsylvania Department
10 of Environmental Protection are both
11 overseeing that.

12 MR. TEXT: I had heard the
13 hydrogeologist talk about the intrusion of the
14 diabase over the shale formation that lies in
15 this area. So whether or not one can
16 scientifically answer when they're blasting
17 off in the quarry whether or not there's going
18 to be groundwater movement is yet to be seen.
19 However, I think there are engineering
20 measures that could be considered. They are
21 costly and one would pressure grout, doing
22 structural work with concrete, pressure grout
23 the bedrock surrounding the superfund site
24 where you would drill down and pressure grout

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1 different levels of cement to make a concrete
2 barrier in the ground to contain the leachate
3 or contaminants migrating laterally off site.
4 It's a costly consideration but I think it's
5 something that EPA should start looking at, at
6 all their sites, not just this one.

7 MS. SCHARR: I'll take the comment.
8 I just want to answer that the quarry has been
9 around here some time and the blasts have
10 occurred for all of that time and yet this
11 site has been in existence for thirty years
12 and that we have six to seven years of
13 groundwater monitoring data that tells us for
14 this site where the groundwater contamination
15 is and we have the areas to be capped
16 contains -- let me just put this up there
17 so -- I think the quarry -- I don't know where
18 the quarry is really, but the dashed blue line
19 is the area where the groundwater
20 contamination exceeds the maximum contaminant
21 levels. This outer dashed line that you see
22 is the fence running around the process area.
23 Much of the process area will be capped here.
24 So when we're looking at groundwater movement

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1 and groundwater contamination, the
2 contamination technically has been even moved
3 off this site. This site is 113 acres. The
4 groundwater is in one small area of the site
5 and the contamination is only under the area
6 that would be capped. We have monitoring
7 wells over here in the process area and we
8 have no groundwater contamination. What I
9 told you before was, what we believe to be
10 happening to the groundwater on this side of
11 the tributaries flows in the direction of the
12 tributaries. In the process area it flows the
13 opposite direction because it's also going in
14 the direction of the tributaries. So because
15 of the natural conditions that exist around
16 this site, I think we have enough barriers --
17 we have these naturally occurring barriers to
18 help us and to give us a level of confidence
19 that we're not going to see migration off the
20 site and because of the size of the site, I
21 think we can develop a monitoring well network
22 that will detect contamination long before it
23 impacts residential wells, which is our
24 greatest concern. We want to make sure

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1 residents aren't impacted.

2 I want to make that point. I'm not
3 saying that's not a good suggestion and
4 shouldn't be considered at other sites, but at
5 this particular site, I don't think that's
6 necessary because of the conditions that exist
7 out there and what we know about the
8 groundwater contamination at the site.

9 MR. NEWCUMER: Long-term
10 administrative question. A number of people
11 are concerned because the current owner of the
12 property is a quarry. When you refer --

13 MS. SCHARR: I'm sorry, repeat that.

14 MR. NEWCUMER: Current owners of the
15 property is actually a quarry of the Revere
16 113 acre site; is that not correct?

17 MS. SCHARR: I don't know if you're
18 saying he is a quarry. I know Harbucks
19 (phonetic) own the property. I know Harbucks
20 wants to develop the site as a quarry.

21 MR. NEWCUMER: That's basically my
22 question. My question is, in the long term
23 administration of the site, when you refer to
24 the site, you're talking about 113 acres, but

1 I thought I heard you say earlier that deed
2 restrictions on the property would probably
3 relate only to the areas of the cap or the
4 contaminated water area, which was 25 or 30
5 acres. That leaves like 80 acres.

6 MS. SCHARR: I'm sorry, I spoke over
7 you.

8 MR. NEWCUMER: That leaves like 80
9 acres to the individual owner of the
10 property. At this point I think the
11 individual owner's rights are suspended; is
12 that correct, while EPA is doing what they're
13 doing, but once it's turned back over to the
14 individual owner and you have deed restricted
15 certain areas, what are the rights that are
16 returned to the owner of the property?

17 MS. SCHARR: They would have the same
18 rights that they would have in any other
19 parcel of the property for the areas outside
20 the areas that the remedy takes up. I don't
21 know if that came out very good. We want to
22 put a cap on the site. We want to make sure
23 that those areas aren't quarried. They can't
24 go in and dig up our cap, obviously, they'd

1 breach the integrity of the cap. The other
2 areas of the site -- it is large. We're
3 talking a 25 to 30 acre process area, go down
4 ravines, up the hills, then you're into the
5 spray fields. In those areas where we do work
6 out in the spray fields, they would also be
7 areas probably where he would have deed
8 restrictions. The deed restrictions haven't
9 been written. The reason why is because the
10 design hasn't been installed. So you can't
11 restricted somebody's property. I think it's
12 going to be here. You have to say and justify
13 this area relates to protection of human
14 health to the environment and, therefore, we
15 want to make sure that nothing happens here
16 that would change that level of protection
17 that we install. So any area outside of those
18 areas I would say the property owner has the
19 right that any other property owner would have
20 and whatever activities he would want to
21 conduct there would be activities that would
22 need approval of the township and other
23 ordinances that would apply to him.

24 MR. FREEMAN: One of the concerns that

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1 we have as neighbors, as residents of this
2 community is what's going to happen to that
3 property. As Paul asked the question, what
4 about the other 80 acres? You say that
5 gentleman is going to have any right to do
6 whatever he wants. Maybe I'm naive, but when
7 you set blasts in a quarry, and you just told
8 us that because of the denseness of the rock
9 that's non-fractured, so, therefore, the water
10 movement is extremely slow at best. Then
11 you're telling me that the blasting that would
12 take place at our current quarry and that if
13 the current owners would decide to come in
14 with another quarry, that those blasts will
15 also not effect the rock permeability or
16 fracture. Am I naive enough to think that one
17 isn't going to happen or -- my mind says
18 somebody ain't feeding me the truth here
19 because there's times when blasts go off and,
20 okay, fine. Other times we have to run and
21 grab stuff before it hits the floor that comes
22 off of our walls. Now, I don't understand how
23 a blast set in one direction or another is not
24 going to effect the rock layers and water

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1 travel, but if I'm wrong, somebody please tell
2 me.

3 MS. SCHARR: Well, when the question
4 was asked, it was referring to a quarry,
5 Borehead Farm site. You're asking me to
6 answer what's going to happen here if Harbucks
7 is able to put a quarry out there. And I
8 don't know the answer to that. I mean we have
9 deed restricted the property but now that
10 you've raised the question when we're
11 developing the deed restrictions, I think that
12 somebody needs to evaluate if we know that the
13 owner wants to do that, but it's not just like
14 we can go in and take the man's property. We
15 have to be able to demonstrate that the
16 activities that he will be conducting there
17 will cause harm to the remedy as it was
18 installed or as it's supposed to be
19 protected. That's something that will have to
20 be evaluated. And I guess I'm sort of heads
21 up when we crafted our language for the deed
22 restrictions we will probably say that
23 anything that's going to be conducted within
24 the vicinity of the cap we would want to make

1 sure that the integrity of the cap will not be
2 breached.

3 MR. FREEMAN: I'm not talking about
4 the integrity of the cap. I'm talking about
5 the rock layer that separates the main aquifer
6 in this area from that other little
7 groundwater as you call it, because right now
8 you've told me that the amount of penetration
9 that's taking place is so minute that it does
10 not affect our aquifer. What I'm saying is,
11 naive as I am, when blasting occurs, when you
12 blast charges and blasting rock, you're
13 sending out shock waves. I am not talking
14 about the cap. I'm talking about the
15 aquifer. If that ever comes up cracked where
16 that water now is going to start to move at a
17 much quicker rate, now you're going to have
18 contamination of the aquifer that services
19 this entire area. If you can assure me, all
20 the hydrogeologists and anyone else, that any
21 blasting within our area, especially within
22 that 80 acres, isn't going to affect that rock
23 place, then please you live here and you
24 continue to drink the water. If that isn't

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1 the case, then I do indeed believe that the
2 deed restriction should be set in place for
3 the remaining 80 acres of that land.

4 MS. SCHARR: I'll take that under
5 advisement.

6 MR. KARGBO: I'm not going to assure
7 anything, okay. It's very difficult to assure
8 anything, but just following the line of
9 thinking of what Ruth was talking about, let's
10 assume that the blasting doesn't interfere
11 with the cap, and let us assume also that the
12 areas that are not capped are free of
13 contamination, to the best of our knowledge,
14 and let us also assume that water is going to
15 be migrating down, although you may have some
16 horizontal migration as well to a certain
17 extent, but vertical migration which is
18 through gravity, which is eventually going to
19 get through the lower aquifer, if at all, you
20 interfere with the integrity of the aquifer.
21 Now, if that happens what it's saying to me is
22 that water is going to migrate down at a much
23 faster rate into the lower aquifer, but that
24 water is likely not going to come in contact

1 with contaminants because the areas that are
2 contaminated are being capped. It's with the
3 assumption as to what we know that the major
4 areas that need to be capped are going to be
5 capped and that areas that are not capped will
6 not pose a problem. So again, without
7 assuring anything, at least we have some
8 safeguard, and it's good you brought that up
9 because that's something that we could
10 definitely take another look at and see what
11 could be done.

12 MS. SCHARR: But as far as your
13 concern about impact, your concern about
14 impacts to the residential wells, that's
15 ultimately what you're concerned about.
16 That's why we have a long-term groundwater
17 monitoring program. That will include shallow
18 water monitoring as well as the deep zone
19 monitoring. We will be monitoring the water
20 on the site in those zones. If we're not
21 seeing contamination outside the area that I
22 showed, then even if the residential well
23 became contaminated, it could be potentially
24 from another source. We have a shallow zone.

1 We mapped out the plume. We have wells in the
2 deeper zones that are not contaminated. We're
3 doing groundwater monitoring. As time goes on
4 we will gather even more information to add on
5 to what we already know. There will be
6 groundwater monitoring. That's key to have
7 the monitoring program to give people the
8 level of comfort that they need that says what
9 you told me is correct, that it's staying
10 there and it's not moving to a place that can
11 cause me harm. It will be important to have
12 that monitoring program in light of these
13 other activities that are occurring and the
14 shaking of the ground and whatever else that
15 can do. My only response again is that --
16 well, not my only response, but that one of
17 them the quarries have been out here for a
18 long time and groundwater is in a discrete
19 zone, the groundwater that's contaminated. I
20 don't expect all of a sudden things to change
21 because quarry blasting is going on. It's
22 been something that's gone on historically and
23 after a long extensive remedial investigation
24 we're saying it's in a discrete zone in the

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1 process area.

2 MR. FREEMAN: The blasting for many
3 years did not go on at the level that it has
4 been going on. So you've gone back 30 years
5 and there was blasting, but it has greatly
6 increased in the last five years. One of our
7 concerns as the people that live in this area,
8 have raised their families and will continue
9 to try and raise their families, we have been
10 literally raped by unscrupulous business
11 people in our land and the quality of life
12 that we have out here. We want to put a stop
13 to it once and for all and not ever have it
14 happen again.

15 We had a situation where we were
16 promised years ago by our county that they
17 would never, ever look at the landfill in
18 Ferndale -- to ever open it again. Within the
19 last two years they talked about opening it
20 and yet they promised us. So please forgive
21 us if we tend to look a little apprehensively
22 at some of the answers we're receiving from
23 our all protective government. Put the
24 programs in place to stop it once and for all,

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1 please.

2 MS. SCHARR: Your comment is noted.

3 Any other questions?

4 A SPEAKER: What action, if any, is
5 being taken or is still being undertaken by
6 DEP or EPA against the parties who were
7 responsible for contaminating the site? We've
8 heard before that questions could not be
9 answered because it was in litigation. Is
10 that still the case and can you bring us
11 up-to-date? Is the person who was behind all
12 this a free man, walking around the streets
13 like you and I smirking?

14 MS. SCHARR: Unfortunately, he's not
15 being sued by environmental crimes. He's been
16 identified as a responsible party at the
17 site. He's been sent notice letters and
18 special notice letters, but he does not
19 participate in the clean up out there
20 unfortunately.

21 A SPEAKER: No action can be -- EPA
22 found there are violations of the clean
23 streams act and millions of dollars are being
24 spent now on violations that have been found

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1 because when the contamination was being
2 taken, all the agencies said, oh, we can't
3 find anything wrong and then thirty years
4 later we're faced with this. He is a free
5 man. We live in fear drinking contaminated
6 water yet nothing can be done. I find fault
7 with the whole government system then. That's
8 one reason I resigned my position from the
9 government. I have no respect for these
10 agencies.

11 MR. FREEMAN: Please don't shrug your
12 shoulders.

13 MS. SCHARR: All I can say is if you
14 don't like it, you should write your
15 congressmen and get them to change the
16 superfund law so that people that are
17 definitely responsible can go to jail. There
18 is a law that has been written and EPA is only
19 given the authority that that law grants. We
20 can't cross over it. This is just one
21 instance of where, say, you know, the laws of
22 this country are crazy that the criminal is a
23 free man and an honest man gets blamed.

24 All I can say is I urge you to write

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1 to your congressmen and express to them how
2 important you believe the protection of the
3 environment and your health is, how you
4 believe that people should have to pay for
5 what they do. But what EPA has been able to
6 do and the actions we have been able to take
7 legally are only those legal actions that EPA
8 is given the authority under the current law.
9 And the gentlemen who write those laws are
10 your congressmen/congresswomen. We only get
11 to enforce them. That's all I can say.

12 We do our best to enforce the laws the
13 way they were written. Anything else, vote.
14 Make your voice heard because it's important
15 to you. This is your home. You feel like
16 it's been degraded and nothing's been done.
17 What has been done is what the agencies have
18 been able to do by the laws that are written.
19 It's at this level where those changes can be
20 made. So I just urge you to do that.

21 Any other questions?

22 MR. McFARLAND: Thomas McFarland,
23 Nockamixon Township Emergency Management
24 Coordinator. Bringing my question to the

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1 surface, is there anything else left on-site
2 that could pose a hazard to the air due to any
3 on-site fires, due to brush or building or
4 anything left on site that our fire
5 departments should be made aware of or our
6 residents?

7 MS. SCHARR: Not at this point, no,
8 there isn't. There are five roll-offs sitting
9 on-site that are covered. And those roll-offs
10 contain about a hundred and fifty drum pieces
11 that were removed. We were excavating lagoons
12 over the course of the winter. We excavated
13 150 drum pieces. Another roll-off contains
14 the dust collector which was taken out of the
15 process building after it was demolished.

16 MR. MCFARLAND: Is it still on the
17 site?

18 MS. SCHARR: Yes. We have to do the
19 sampling and analysis of them. Then you
20 submit that information to the waste disposal
21 facility. They have to -- then they require
22 additional testing to make sure they are
23 permitted to take the type of waste you're
24 saying you're sending. Then the actual

1 filling out of the paperwork and forms and
2 manifests because we have the Resource
3 Conservation and Recovery Act which deals with
4 transportation of hazardous waste. They are
5 waiting to go off -- the reason why they
6 haven't moved off site as of yet is because of
7 the legal problems, who signs the manifest,
8 who is the generator of this. Revere Steering
9 Committee is compromised of, I think, twelve
10 companies. They're working through legal
11 issues to figure out who it is signing the
12 manifest. Then they are going to go off site
13 but they are sitting there and they are
14 covered. I think every one of the roll-offs
15 is in a big, square dumpster covered with a
16 tarp. So I don't believe there is a threat to
17 air, fire or anything at the site at this
18 point.

19 MR. MCFARLAND: When was the last time
20 that on-site emergency operations branch was
21 updated?

22 MS. SCHARR: On-site plans were
23 updated when they went out and started
24 remediate action in October of '95. So that

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1 emergency plan is incorporated into the
2 remedial action plans.

3 MR. MCFARLAND: Okay.

4 MS. SCHARR: Thank you all. I just
5 want to give you one thing, my address -- not
6 my address, my phone number is changing in
7 case you would like to call me and have
8 additional questions. We're getting a new
9 phone system at EPA and, unfortunately, I
10 don't know the new general number, but I do
11 know my phone number. My new phone number as
12 of May 20th will be (215) 566-3191. If you do
13 call an old number, there is a recording
14 telling you that the number has been changed
15 to a new number. I believe that will play for
16 what's considered a sufficient amount of time,
17 but if you're trying to reach me, that's my
18 new number come Monday. Over the weekend --
19 we do have voice mail. This weekend that
20 system will be down because we're installing
21 the new phone system. So don't get frustrated
22 and call on the weekend. Wait till Monday and
23 somebody will answer your call. Thank you
24 all.

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1 (Proceeding concluded at approximately
2 8:45 p.m.)
3
4

5 C E R T I F I C A T E
6

7 I, GENA M. NARDONE, a Court Reporter
8 in and for the Commonwealth of Pennsylvania, hereby
9 certify that the foregoing is a true and accurate
10 transcript of the deposition of said witness who was
11 first duly sworn by me on the date and place
12 hereinbefore set forth.

13 I FURTHER CERTIFY that I am neither
14 attorney nor counsel for, nor related to or employed
15 by, any of the parties to the action in which this
16 deposition was taken, and further that I am not a
17 relative or employee of any attorney or counsel
18 employed in this action, nor am I financially
19 interested in this case.
20

21 *Gene M. Nardone*
22

23 _____
GENA M. NARDONE

24 CERTIFIED SHORTHAND REPORTER

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